

Reply to 'Comment on "angstrom-scale probing of paramagnetic centers location in nanodiamonds by ^3He NMR at low temperatures"' by A. Shames, V. Osipov and A. Panich,: Phys. Chem. Chem. Phys. 2018, 20, DOI: 10.1039/c8cp03331e

Yavkin B., Orlinskii S., Klochkov A., Tagirov M.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

© the Owner Societies 2018. Shames et al. made a comment on our article (DOI: 10.1039/C7CP05898E) stating that their experience in EPR studies of detonation nanodiamonds suggests the existence of two main types of paramagnetic center in detonation nanodiamonds which questions our results. In this reply we provide insights into why there is only one main type of paramagnetic centers detected in nanodiamonds used in this work, which validates the correctness of the proposed original method to determine the distances between paramagnetic centers and nanoparticle surfaces by ^3He NMR.

<http://dx.doi.org/10.1039/c8cp05801f>

References

- [1] V. Kuzmin K. Safiullin G. Dolgorukov A. Stanislavovas E. Alakshin T. Safin B. Yavkin S. Orlinskii A. Kiiamov M. Presnyakov A. Klochkov M. Tagirov Phys. Chem. Chem. Phys. 2018 20 1476
- [2] A. Shames A. Panich V. Y. Osipov A. Aleksenskiy A. Y. Vul' T. Enoki K. Takai J. Appl. Phys. 2010 107 014318
- [3] A. Afandi A. Howkins I. W. Boyd R. B. Jackman Sci. Rep. 2018 8 3270
- [4] B. Yavkin G. Mamin M. Gafurov S. Orlinskii Magn. Reson. Solids 2015 17 15101
- [5] I. N. Mukhambetov A. A. Lamberov B. V. Yavkin M. R. Gafurov G. V. Mamin S. B. Orlinskii J. Phys. Chem. C 2014 118 14998
- [6] M. R. Gafurov I. N. Mukhambetov B. V. Yavkin G. V. Mamin A. A. Lamberov S. B. Orlinskii J. Phys. Chem. C 2015 119 27410
- [7] A. Shames A. Panich W. Kempinski A. Alexenskii M. Baidakova A. Dideikin V. Osipov V. Siklitski E. Osawa M. Ozawa A. Vul' J. Phys. Chem. Solids 2002 63 1993
- [8] A. M. Panich A. I. Shames N. A. Sergeev V. Y. Osipov A. E. Alexenskiy A. Y. Vul' J. Phys. Chem. C 2016 120 19804